EXPRESS TERMS
FOR
PROPOSED BUILDING STANDARDS
OF THE
OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT

REGARDING PROPOSED CHANGES TO
CALIFORNIA MECHANICAL CODE,
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 4

LEGEND FOR EXPRESS TERMS
1. Existing California amendments or code language being modified: All such language appears in *italics*, modified language is underlined.
2. New California amendments: All such language appears *underlined and in italics*.
3. Repealed text: All such language appears in ~~strikeout~~.

EXPRESS TERMS

Title 24, Part 4, California Mechanical Code

Chapter 1 - General
Adopt entire 2003 Uniform Mechanical Code (UMC) Chapter 1 and carry forward existing amendments of the 2001 California Mechanical Code (CMC) for OSHPD 1, 2, 3 & 4. Also, amend Section 108.1.1.12 as follows:

108.1.1.12 [for OSHPD] Office of Statewide Health Planning and Development
108.1.1.12.1 [for OSHPD 1]
Application – *General acute-care hospitals and acute psychiatric hospitals, excluding distinct part units or distinct part freestanding buildings providing skilled nursing or intermediate-care services. For structural Regulations: Skilled nursing facilities and/or intermediate-care facilities except those skilled nursing facilities and intermediate-care facilities of single story, Type V, wood or light steel-frame construction.*
…

NOTATION:
- *Authority: Health and Safety Code Sections18928 and 129850*
- *Reference: Health and Safety Code Section 1275 and 129850*

108.1.1.12.2 [for OSHPD 2]
Application – *Skilled nursing facilities and intermediate-care facilities, including distinct part skilled nursing and intermediate-care services on a general acute-care or acute psychiatric hospital license, provided either in a separate unit or a freestanding building. For Structural Regulations: Single-story, Type V skilled nursing facility and/or intermediate-care facilities utilizing wood or light steel-frame construction.*
…

NOTATION:
- *Authority: Health and Safety Code Sections18928 and 129850*
- *Reference: Health and Safety Code Section 1275 and 129850*

Chapter 2 - Definitions
Adopt entire 2003 UMC Chapter 2 and carry forward existing amendments of the 2001 CMC for OSHPD 1, 2, 3 & 4.

Chapter 3 – General Requirements
Adopt entire 2003 UMC Chapter 3 and carry forward existing amendments of the 2001 CMC for OSHPD 1, 2, 3 & 4 with the following modifications:

SECTION 316.0 – ESSENTIAL MECHANICAL PROVISIONS [FOR OSHPD 1, 2, 3 & 4]
During periods of power outages emergency electrical power shall be provided for the following equipment:

316.1 *(Does not apply to OSHPD 3.) All heating equipment necessary to maintain a minimum temperature of 60ºF (15.6º) in patient areas which are not specified in Table 315.*

316.2 *All heating equipment necessary to maintain the minimum temperatures for sensitive areas as specified in Table 315.*

316.3 *Equipment necessary for humidification of the areas listed in Table 315.*

316.4 *All supply, return and exhaust fans required to maintain the positive and negative air balances as required in Table 4-A.*

316.5 *All control components and control systems necessary for the normal operation of equipment required to have emergency electrical power.*

NOTATION:
- *Authority: Health and Safety Code Sections18928 and 129850*
- *Reference: Health and Safety Code Section 1226 and 129850*

Chapter 4 – Ventilation-Air Supply
Adopt entire 2003 UMC Chapter 4 and carry forward existing amendments of 2001 CMC for OSHPD 1, 2, 3 & 4 with the following modifications:

407.4.1.3 *Corridors shall not be used to convey supply, return or exhaust air to or from any room.*

EXCEPTION 1: *Small rooms [30 square feet (2.79 m^2) or less] which are mechanically exhausted, such as bathrooms, toilet rooms and janitors' closets opening directly on corridors.*

EXCEPTION 2: *Air from corridors may be used as makeup air to ventilate toilet rooms of 50 square feet (4.7 m^2) or less which are mechanically exhausted opening directly onto corridors.*

EXCEPTION ~~2~~ 3: *Air transfer caused by pressure differentials in rooms required to have a positive or negative air balance by Table 4-A ~~or Table 4-C~~.*

NOTATION:
- *Authority: Health and Safety Code Sections18928 and 129850*
- *Reference: Health and Safety Code Section 1226, 1275, 129790 and 129850*

408.1.5 *Filter bank No. 1 shall be located upstream of the air-conditioning equipment. Filter bank No. 2 and filter bank No. 3 shall be located downstream of the supply fan and all cooling and humidification equipment with efficiencies as indicated in Table 4-B or Table 4-C.*

EXCEPTION: *Dry steam-type humidifiers for local room humidity control may be installed downstream of ~~filter bank No. 2~~ the final filter bank where designs are specifically approved by the enforcing agency.*

408.1.6 *Filter bank No. 2 and filter bank No.3 media …*

NOTATION:

- *Authority: Health and Safety Code Sections18928 and 129850*
- *Reference: Health and Safety Code Section 1226, 1275, 129790 and 129850*

Chapter 5 – Exhaust Systems
Adopt entire 2003 UMC Chapter 5 and carry forward existing amendments of 2001 CMC for OSHPD 1, 2, 3 & 4. Also, existing amendment is being relocated from Section 509.2 to 508.1:

Section 508.0 Hoods.
Section 508.1 Construction. The hood or that portion of a primary collection …
All hoods shall be secured in place ***[For OSHPD 1, 2 & 4]*** *to resist the lateral loads given in the California Building Code, Title 24, Part 2* by noncombustible supports.

Section 509.2 … Hoods shall be secured in place ~~***[For OSHPD 1, 2 & 4]*** *to resist the lateral loads given in the California Building Code, Title 24, Part 2*~~ by noncombustible supports.

Chapter 6 – Duct Systems
Adopt entire 2003 UMC Chapter 6 and carry forward existing amendments of 2001 CMC for OSHPD 1, 2, 3 & 4 with the following modifications:

602.0 Material.
602.1 General. Supply air, return air, and outside air for heating, cooling, or evaporative cooling systems shall be conducted through duct systems constructed of metal as set forth in Tables 6-1, 6-2, 6-3, 6-4, 6-7, 6-8, 6-9, and 6-10, or metal ducts complying with UMC Standard No. 6-2 or the referenced HVAC duct construction standard in Chapter 17, Part II. Rectangular ducts in excess of 2 inches w.g. shall comply with UMC Standard No. 6-2 or the referenced HVAC duct construction standard in Chapter 17, Part II. Ducts, plenums, and fittings may be constructed of asbestos cement, concrete, clay, or ceramics when installed in the ground or in a concrete slab, provided the joints are tightly sealed.

Corridors shall not be used to convey air to or from rooms if the corridor is required to be of fire-resistive construction per the Building Code.

> ***EXCEPTION 1 : [For OSHPD 1, 2, 3 & 4]****: In health facilities, air from corridors may be used as makeup air to ventilate small rooms of 30 square feet (2.79 m^2) or less which are mechanically exhausted, such as bathrooms, ~~toilet rooms~~, janitor closets, and electrical or telephone closets opening directly onto corridors.*
>
> ***EXCEPTION 2: [For OSHPD 1, 2, 3 & 4]****: In health facilities, air from corridors may be used as makeup air to ventilate toilet rooms of 50 square feet (4.7 m^2) or less which are mechanically exhausted opening directly onto corridors.*
>
> ***EXCEPTION ~~2~~ 3 : [OSHPD 1, 2, 3 & 4]:*** *Air transfer caused by pressure differentials in rooms required to have a positive or negative air balance by Table 4-A.*

Concealed building spaces or independent construction within buildings may be used as ducts or plenums.
…

NOTATION:

- *Authority: Health and Safety Code Sections18928 and 129850*
- *Reference: Health and Safety Code Section 1226, 1275, 129790 and 129850*

607.0 Ventilating Ceilings.

607.1 General. Perforated ceilings may be used for air supply within the limitations of this section. Exit corridors, when required to be of fire-resistive construction by the Building Code, shall not have ventilating ceilings.

607.1.1 *[For OSHPD 1, 2, 3 & 4] Ventilating ceilings are not permitted in health facilities.*

EXCEPTION: *Designs specifically approved by the enforcing agency.*

607.2 Requirements …

NOTATION:
- *Authority: Health and Safety Code Sections18928 and 129850*
- *Reference: Health and Safety Code Section 1226, 1275, 129790 and 129850*

Chapter 7 – Combustion Air
Adopt entire 2003 UMC Chapter 7 for OSHPD 1, 2, 3 & 4 without amendments:

The 2001 CMC amendment indicated below will not be carried forward to the 2003 UMC:
~~***707.2.1 Designed Installations—Compliance.*** *[For OSHPD 1, 2, 3 & 4] When, in the opinion of the authority having jurisdiction, the designed installation does not comply with Table 7-1 or its equivalent, calculations shall be submitted to the authority having jurisdiction for approval*~~.

NOTATION:
- *Authority: Health and Safety Code Sections18928 and 129850*
- *Reference: Health and Safety Code Section 1226, 1275, 129790 and 129850*

Chapter 8 – Chimneys and Vents
Adopt entire 2003 UMC Chapter 8 for OSHPD 1, 2, 3 & 4 without amendments.

Chapter 9 – Installation of Specific Equipment
Adopt entire 2003 UMC Chapter 9 and carry forward existing amendments of the 2001 CMC for OSHPD 1, 2, 3, & 4 with the following modifications:

902.0 General.
(A) This chapter is applicable primarily to nonindustrial-type gas utilization equipment …

(B) Gas utilization equipment shall not be installed …

(C) Where the room size in comparison with the size of the equipment …

(D) [For OSHPD 1, 2 & 4] *Warm air furnaces shall not be installed under openable windows on exterior walls.*

(E) [For OSHPD 1, 2 & 4] *A vented decorative appliance shall not be located in any hospital, skilled nursing facility, intermediate care facility or correctional treatment center.*

903.0 Air Conditioning Equipment (Gas-Fired Air Conditioners and Heat Pumps). …

Chapter 10 – Steam and Hot-Water Boilers
Adopt entire 2003 UMC Chapter 10 for OSHPD 1, 2, 3 & 4 without amendments.

Chapter 11 - Refrigeration
Adopt entire 2003 UMC Chapter 11 and carry forward existing amendments of 2001 CMC for OSHPD 1, 2, 3 & 4 with the following modifications:

11-1 Refrigerant Groups[1], Properties[2] and Allowable Quantities[3] ~~14~~ *13*

(Data reprinted with permission from The American Society of Heating, Refrigerating, and Air-Conditioning Engineers)

Refrigerant	Chemical Formula	Chemical Name[4] (Composition for Blends)	Safety Group[1]	PEL[5] (ppm)	IDLH[6] (ppm)	Pounds per 1000 cf of Space[7]
R-11	CCl_3F	Trichlorofluoromethane	A1	C100[8]	4,000[10]	1.60
R-12	CCl_2F_2	Dichlorodifluoromethane	A1	1000	40,000	12.00
R-13	CCF_3	Chlorotrifluoromethane	A1	1000	67,000	18.00
R-13B1	$CBrF_3$	Bromotrifluoromethane	A1	1000	57,000	22.00
R-14	CF_4	Tetrafluoromethane (carbon tetrafluoride)	A1	1000	67,000	15.00
R-22	$CHClF_2$	Chlorodifluoromethane	A1	1000[10]	42,000[11]	9.4
R-23	CHF4	Trifluoromethane	A1	-	-	-
R-113	CCl_2FCClF_2	1,1,2-trichloro-1,2,2-trifluoroethane	A1	1000	4500	1.90
R-114	$CClF_2CClF_2$	1,2-dichloro-1,1,2,2-tetrafluoethane	A1	1000	50,000	9.40
R-123	$CHCl_2CF_3$	2,2-dichloro-1,1,1,-trifluoroethane	B1	10[10]	4000[11]	1.60
R-124	$CHClFCF_3$	1,2-dichloro-1,1,1,-tetrafluoethane	A1	-	-	-
R-134a	CF_3CH_2F	1,1,1,2-tetrafluoroethane	A1	1000[10]	50,000[11]	16.00
R-170	CH_3CH_3	Ethane	A3	1000	6,400	0.50
R-236fa	$CF_3CH_2CF_3$	1,1,1,3,3,3-hexafluoropropane	A1	-	-	-
R-245fa	$CF_3CH_2CHF_2$	1,1,1,3,3-pentafluoropropane	A3	-	-	-
R-290	$CH_3CH_2CH_3$	Propane	A3	1000	4,400	0.50
R-400	Azeotrope	R-12/114	A1	-	-	-
R-401A	Azeotrope	R-22/152a/124 (53/13/34)	A1	-	-	-
R-401B	Azeotrope	R-22/152a/124 (61/11/28)	A1	-	-	-
R-401C	Azeotrope	R-22/152a/124 (33/15/52)	A1	-	-	-
R-402A	Azeotrope	R-125/290/22 (60/2/38)	A1	-	-	-
R-402B	Azeotrope	R-125/290/22 (38/2/60)	A1	-	-	-
R-404A	Azetrope	R-125/143a/34a (44/52/4)	A1	-	-	-
R-407A	Azeotrope	R-32/125/134a (20/40/40)	A1	-	-	-
R-407B	Azeotrope	R-32/125/134a (10/70/20)	A1	-	-	-
R-407C	Azeotrope	R-32/125/134a (23/25/52)	A1	-	-	-
R-407D	Azeotrope	R-32/125/134a	A1	-	-	-

		(15/15/70)				
R-407E	Azeotrope	R-32/125/134a (25/15/60)	A1	-	-	-
R-408A	Azeotrope	R-125/143a/22 (7/46/47)	A1	-	-	-
R-409A	Azeotrope	R-22/124/142b (60/25/15)	A1	-	-	-
R-410A	Azeotrope	R-32/125 (50/50)	A1	-	-	-
R-416A	Azeotrope	R-134a/124/600 (59/39.5/1.5)	A1	-	-	-
R-500 73.8% 26.2%	Azetrope CCl_2F_2 CCIF2CHF3	R-12/125a (73.8/26.2) Dichlorodifluoromethane 1,1-difuoroethane	A1	1000[10]	47,000[10]	12.00
R-502 48% 51.2%	Azeotrope CHCIF2 CCIF2CF3	R-23/13 (48.8/51.2) Chlorodifluoroethane 1-chloro-1,1,2,2,2-pentafluoroethane	A1	1000	67,000	15.00
R-503	Azeotrope	R-23/13 (48.8/51.2)	A1	1000	67,000	15.00
R-507A	Azeotrope	R-125/143a (50/50)	A1	-	-	-
R-508A	Azeotrope	R-23/116 (39/61)	A1	-	-	-
R-508B	Azeotrope	R-23/116 (46/54)	A1	-	-	-
R-509A	Azeotrope	R-22/218 (44/560)	A1	-	-	-
R-600	$CH_3CH_2CH_2CH_3$	Butane	A3	800	3,400	0.51
R-600a	$CH(CH_2)_2CH_3$	Isobutane (2-methyl propane)	A3	800	3,400	0.51
R-717	NH_3	Ammonia	B2	50[12]	500	0.022
R-718	H_2O	Water	A1	-	-	-
R-744	CO_2	Carbon Dioxide	A1	5000	50,000	5.70
R-1150	$CH_2=CH_2$	Ethene (ethylene)	A3	1000	5,200	0.38
R-1270	$CH_3CH=CH_2$	Propane 9propylene)	B3	1000	3,400	0.37

For SI: 1 pound = 0.454kg, 1 cubic foot = 0.0283m^3.
1 Refrigerant safety group designation is in accordance with Section 1102.0.
2 Refrigerant properties are those needed for this chapter.
3 Allowable quantities are for high-probability systems under Section 1103.0 only.
4 Chemical name shown is the preferred name.
5 PEL is that designated in 29 CFR 1910.1000 unless otherwise indicated.
6 IDLH is that designated by NIOSH unless otherwise designated.
7 Pounds of refrigerant in a high-probability system per 1000 cubic feet (28.3kg/m^3) of occupied space. See Section 1104.0. This column does not apply to refrigerant machinery rooms or areas covered by Section 1106.0.
8 The PEL value shown is the TLV-C recommended by ACGIH.
9 The IDLH value shown is reduced from that designated by NIOSH in light of cardiac sensitization potential.
10 A PEL has not yet been established; the value given was determined in a consistent manner.
11 An IDLH has not yet been established; the value given was determined in a consistent manner.
12 OSHA PEL is 50ppm; ACGIH TLV-WA is 25ppm.
~~14~~13 ***[For OSHPD 1, 2 & 4]*** *The quantity of refrigerant in each system is limited to 50% of the amount listed. Exception: kitchens, laboratories, and mortuaries.*

Chapter 12- Hydronics
Adopt entire 2003 UMC Chapter 12 for OSHPD 1, 2, 3 & 4 without amendments.

Chapter 13 – Fuel Piping
Adopt entire 2003 UMC Chapter 13 for OSHPD 1, 2, 3 & 4 without amendments.

Chapter 14 – Process Piping
Adopt entire 2003 UMC Chapter 14 for OSHPD 1, 2, 3 & 4 without amendments.

Chapter 15 – Solar Systems
Not adopted by OSHPD.

Chapter 16 – Stationary Fuel Cell Power Plants
Not adopted by OSHPD.

Chapter 17 – Standards
Adopt entire 2003 UMC Chapter 17 for OSHPD 1, 2, 3 & 4 without amendments.

Appendix A Uniform Mechanical Code
Adopt entire 2003 UMC Appendix A for OSHPD 1, 2, 3 & 4 without amendments.

Appendix B Procedures to be Followed to Place Gas Equipment in Operation
Adopt entire 2003 UMC Appendix B for OSHPD 1, 2, 3 & 4 without amendments.

Appendix C Installation and Testing of Oil (Liquid) Fuel-Fired Equipment
Adopt entire 2003 UMC Appendix C for OSHPD 1, 2, 3 & 4 without amendments.

Appendix D Unit Conversion Tables
Adopt entire 2003 UMC Appendix D for OSHPD 1, 2, 3 & 4 without amendments.